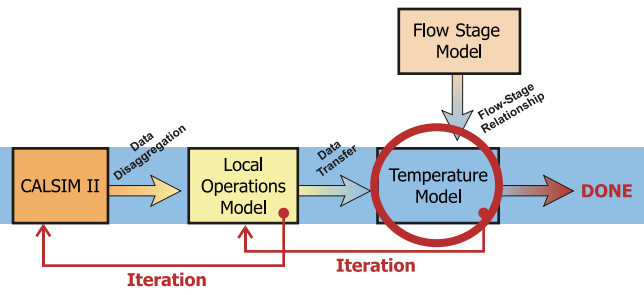


Temperature Model

of Oroville Facilities and Feather River (WQRRS)

Model Description

Engine WQRRS

Model Components

- Lake Oroville Model
- Thermalito-Complex Model
- Feather River Model
- Integration

User Interface

- Map screen
- Input screen
- Output screen

Model Steps

Calibration -2002

- Actual flow
- Actual meteorology
- Simulated vs. Observed data

Benchmark – Long-Term

- Synthesized hydrology
- Synthesized meteorology

What-If Scenarios

- Benchmark Study
- Proposed changes

Model Output

Lake

- Temperature profile
- Cold water storage volume
- Temperature of reservoir release

River

- Temperature
- Flow
- Water depth

Diversions

- Temperature

Model Theory

Water Balance

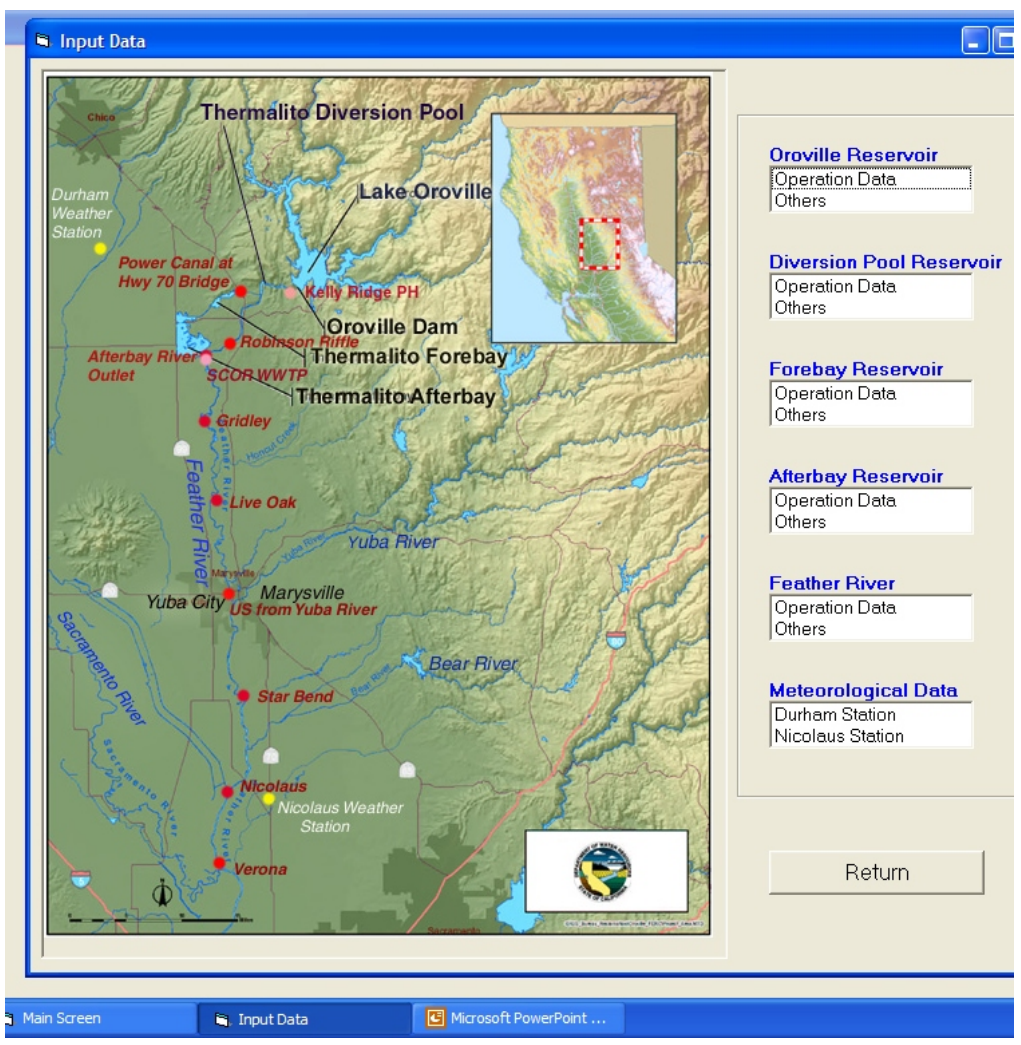
- Tributary inflows
- Diversions
- Release and pump back

Heat Budget

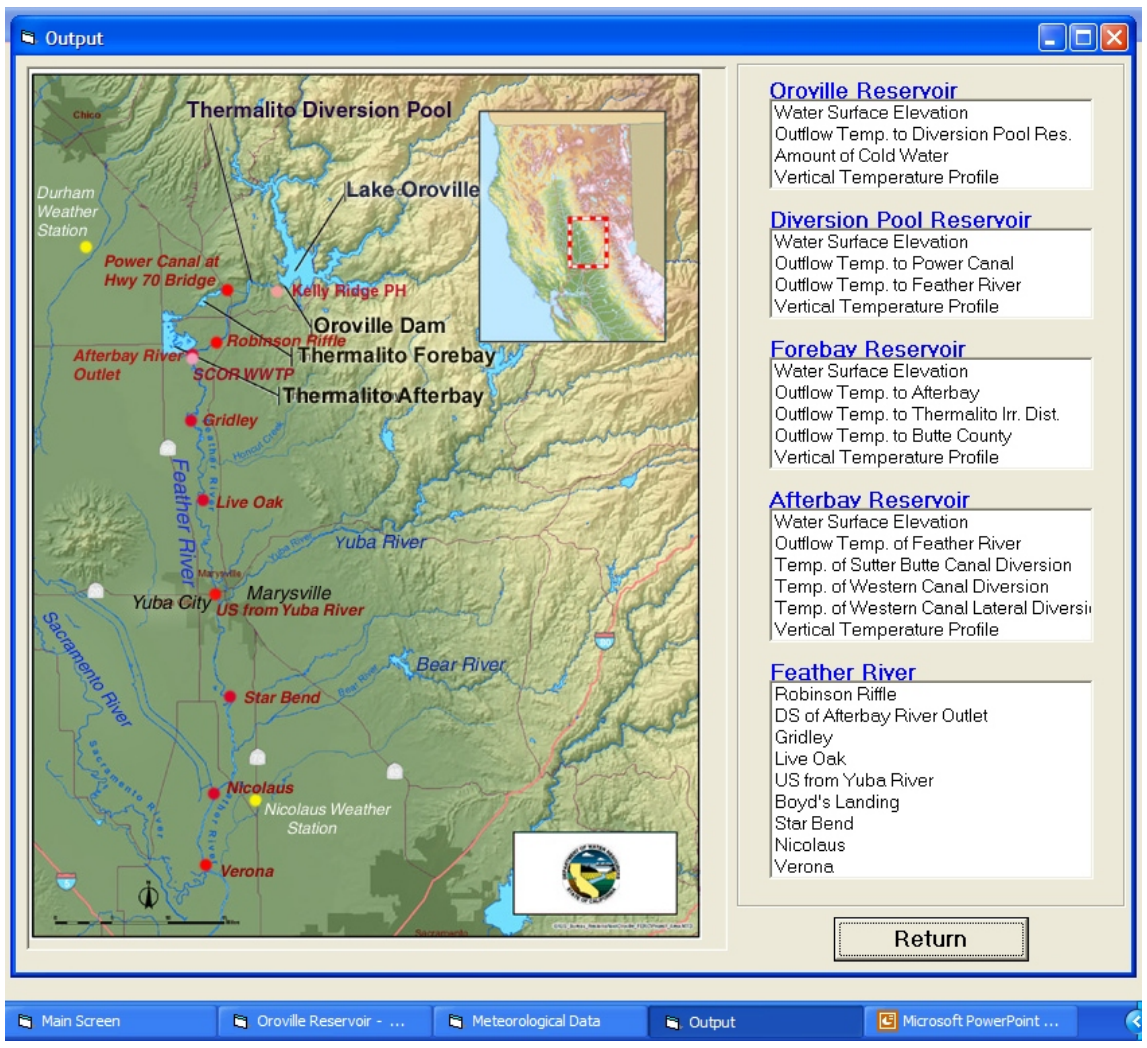
- Solar radiation
- Evaporation
- Advection, diffusion, and mixing

Control Volume

- Lake layers
- River segments



Input Data



Output Data